

NOVEMBER/DECEMBER 2023

CAMB32 — BIO INSTRUMENTATION

Time: Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define sedimentation velocity.
2. Who introduced differential centrifugation?
3. What is the light source used in spectrophotometry?
4. Which detector is used in colorimeter?
5. Which paper is used in paper chromatography?
6. Give name of the spraying reagent used in paper chromatography.
7. Define buffer.
8. Expand SDS.
9. Define radioactive decay.
10. Which bacteria is used as biosensors?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the applications of centrifuge in various field.

Or

(b) Give concise account on types of rotor in centrifuges.

12. (a) Describe the principle, method and uses of colorimeter.

Or

(b) Write the principle of NMR. Add a note on its applications.

13. (a) Give an account of techniques involved in gas chromatography.

Or

(b) Briefly explain the column chromatography.

14. (a) Explain the immuno diffusion technique.

Or

(b) Discuss briefly about the nucleic acid separation using electrophoresis.

15. (a) Comment on autoradiography.

Or

(b) Write a note on different applications of radioisotopes.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What is centrifugation? Discuss about ultracentrifuge.

17. Give elaborate account on the principle and applications of atomic absorption spectrophotometer.

18. Discuss the principle and applications of HPLC.

19. Describe in detail SDS – PAGE technique.

20. Write elaborately about scintillation counter.
